

REMARKS/ARGUMENTS

Claims 1-19 are pending in this application. By this Amendment, Applicant AMENDS claims 1, 2, 7, and 13 and ADDS claim 19.

Applicant greatly appreciates the Examiner's indication that claim 3 would be allowable if amended to overcome the 35 U.S.C. §112, second paragraph rejection and to be in independent form including all of the features of the base claim and any intervening claims, and the Examiner's indication that claim 15 would be allowable if rewritten in independent form including all of the features of the base claim and any intervening claims.

The drawings were objected to for failing to designate Figs. 3, 4, and 11 as --Prior Art--. Applicant has amended Figs. 3, 4, and 11 to properly be designated as --Prior Art--. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objection to the drawings.

Claims 1-6 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Claims 1 and 2 have been amended to correct the minor informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-6 under 35 U.S.C. §112, second paragraph.

Claims 1, 5 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Nagatsuka et al. (JP 2000-151337). Claims 1, 2 and 4-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Nakazawa et al. (JP 11-97966). Claims 1, 5 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Taguchi et al. (EP 0 800 270). Claims 1, 2 and 4-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kawakatsu et al. (U.S. 5,568,002). Claims 7, 8, 10-14 and 16-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ueda et al. (U.S. 6,111,481). Claims 7 and 9-12 were rejected under 35 U.S.C. § 102(a) as being anticipated by Mita et al. (JP 2001-292050). Applicant respectfully traverses the prior art rejections of claims 1, 2, 4-14, and 16-18.

In accordance with MPEP § 201.15, Applicant has provided herewith a certified

English translation of the Japanese Priority Application, JP 2000-363316, and a statement that the translation of the certified English translation is accurate. Thus, Applicant respectfully submits that Mita et al. does not qualify as prior art under 35 U.S.C. §102(a) because the publication date of Mita et al. of October 19, 2001 is after the effective filing date of November 29, 2000 of the present application.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 7 and 9-12 under 35 U.S.C. § 102(a) as being anticipated by Mita et al.

Claim 1 has been amended to recite:

“A surface acoustic wave filter, comprising:  
a piezoelectric substrate;  
a plurality of IDTs provided on said piezoelectric substrate and arranged along a propagation direction of a surface acoustic wave;  
a first and a second balanced signal terminals connected to at least one of the plurality of IDTs;  
an unbalanced signal terminal connected to at least one of the plurality of IDTs; and  
at least two of said plurality of IDTs located on opposite sides of an IDT of said plurality of IDTs located at a central portion of said piezoelectric substrate being disposed in an approximate point-symmetry about the IDT located at the central portion in the propagation direction of a surface acoustic wave; wherein  
**at least one of the IDTs has at least one finger electrode having a width that is different from a width of at least another finger electrode of the at least one of the IDTs.**” (emphasis added)

Claim 7 has been amended to recite:

“A surface acoustic wave filter, comprising:  
a piezoelectric substrate;  
first, second and third IDTs provided on said piezoelectric substrate, and sequentially arranged along a propagation direction of a surface acoustic wave;  
an unbalanced signal terminal connected to the first and third IDTs;  
and  
first and second balanced signal terminals each connected to opposite ends of the second IDT; wherein

**the unbalanced signal terminal is connected to a first end portion of the first IDT and to a first end portion of the third IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave; and**

a ground potential is connected to a second end portion of the first IDT opposing the first end portion of the first IDT along the direction substantially perpendicular to the propagation of the surface acoustic wave and is connected to a second end portion of the third IDT opposing the first end portion of the third IDT along the direction substantially perpendicular to the propagation of the surface acoustic wave.” (emphasis added)

Claim 13 has been amended to recite:

“A surface acoustic wave filter, comprising:  
a piezoelectric substrate;  
first, second and third IDTs provided on said piezoelectric substrate, and sequentially arranged along the propagation direction of a surface acoustic wave;  
an unbalanced signal terminal connected to the second IDT; and  
first and second balanced signal terminals each connected to the first and third IDT; wherein

**the first balanced signal terminal is connected to a first end portion of the first IDT and to a first end portion of the third IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave; and**

**the second balanced signal terminal is connected to a second end portion of the first IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave and a second end portion of the third IDT opposing the first end portion of the third IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave.” (emphasis added)**

Applicant’s claim 1 recites the feature of “at least one of the IDTs has at least one finger electrode having a width that is different from a width of at least another finger electrode of the at least one of the IDTs.” Applicant’s claim 7 recites the feature of “the unbalanced signal terminal is connected to a first end portion of the first IDT and to a

first end portion of the third IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave.” Applicant’s claim 13 recites the features of “the first balanced signal terminal is connected to a first end portion of the first IDT and to a first end portion of the third IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave” and “the second balanced signal terminal is connected to a second end portion of the first IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave and a second end portion of the third IDT opposing the first end portion of the third IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave.” With the improved features of claims 1, 7, and 13, Applicant has been able to provide a longitudinally-coupled resonator-type surface acoustic wave filter that improves the degree of balance outside the pass band in addition to having a balanced-to-unbalanced conversion function and that greatly increases the attenuation outside the pass band (see, for example, the second full paragraph on page 4 of the Specification).

Applicant has amended claim 1 to recite the feature of “at least one of the IDTs has at least one finger electrode having a width that is different from a width of at least another finger electrode of the at least one of the IDTs.”

None of the prior art used to reject claim 1 teaches or suggests Applicant’s claimed combination of claim 1 including the feature of “at least one of the IDTs has at least one finger electrode having a width that is different from a width of at least another finger electrode of the at least one of the IDTs” as recited in Applicant’s claim 1.

Nagatsuka et al., Nakazawa et al., Taguchi et al., and Kawakatsu et al. teach that all the finger electrode widths are the same, **NOT** that at least one of the finger electrode widths is different from at least another of the widths of the other finger electrodes as recited in Applicant’s claim 1.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of

the rejections of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Nagatsuka et al., Nakazawa et al., Taguchi et al., and Kawakatsu et al.

Applicant's claim 7 has been amended to recite the feature of "the unbalanced signal terminal is connected to a first end portion of the first IDT and to a first end portion of the third IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave."

Ueda et al. fails to teach or suggest the feature of "the unbalanced signal terminal is connected to a first end portion of the first IDT and to a first end portion of the third IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave" as recited in Applicant's claim 7.

Ueda et al. teaches that an unbalanced signal terminal is connected to end portions of the first and third end portions on the same side in the direction substantially perpendicular to the propagation direction of the surface acoustic wave, **NOT** on opposing sides in the direction substantially perpendicular to the propagation direction of the surface acoustic wave as recited in Applicant's claim 7.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 7 under 35 U.S.C. § 102(b) as being anticipated by Ueda et al.

Applicant's claim 13 has been amended to recite the features of "the first balanced signal terminal is connected to a first end portion of the first IDT and to a first end portion of the third IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave" and "the second balanced signal terminal is connected to a second end portion of the first IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave and a second end portion of the third IDT opposing the first end portion of the third IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave."

Ueda et al. fails to teach or suggest the features of "the first balanced signal

terminal is connected to a first end portion of the first IDT and to a first end portion of the third IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave” and “the second balanced signal terminal is connected to a second end portion of the first IDT opposing the first end portion of the first IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave and a second end portion of the third IDT opposing the first end portion of the third IDT along a direction substantially perpendicular to a propagation of a surface acoustic wave” as recited in Applicant’s claim 13.

Ueda et al. teaches in **Fig. 18** that both of the balanced signal terminals are connected, respectively, to the same side of the in the direction substantially perpendicular to the propagation direction of the surface acoustic wave, **NOT** on opposing sides in the direction substantially perpendicular to the propagation direction of the surface acoustic wave as recited in Applicant’s claim 13.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 13 under 35 U.S.C. § 102(b) as being anticipated by Ueda et al.

Applicant has added claim 19 which recites the feature of “the unbalanced signal terminal and the ground line of said at least two IDTs being disposed in an approximate point-symmetry about the IDT located at the central portion in the propagation direction of a surface acoustic wave.” None of the prior art of record teach or suggest the feature of “the unbalanced signal terminal and the ground line of said at least two IDTs being disposed in an approximate point-symmetry about the IDT located at the central portion in the propagation direction of a surface acoustic wave” recited in Applicant’s claim 19.

Accordingly, Applicant respectfully submits that none of the prior art of record, applied alone or in combination, teaches or suggests the unique combination and arrangement of elements recited in claims 1, 7, 13, and 19 of the present application. Claims 2-6 depend upon claim 1 and are therefore allowable for at least the reasons that claim 1 is allowable. Claims 8-12 depend upon claim 7 and are therefore allowable for at least the reasons that claim 7 is allowable. Claims 14-18 depend upon claim 13

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and are therefore allowable for at least the reasons that claim 13 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a THREE-month extension of time, extending to September 3, 2003, the period for response to the Office Action dated March 3, 2003.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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